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Grief and Group Recovery Following a Military Air Disaster

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Of the 248 soldiers killed in the 1985 crash of a chartered Army jetliner at Gander, Newfoundland, most (189) came from a single Army battalion. In order to gain a better understanding of psychological aspects of group adjustment to collective traumatic loss, a naturalistic case study was made of this battalion over the 6-month period following the crash. Of special interest was the problem of integrating new replacements, and the role of these replacements in helping or impeding group recovery. Extensive interview and observational data were collected at approximately monthly intervals. Results suggest four relatively distinct psycho-social phases of unit recovery, each lasting about 4-6 weeks: (1) Numb Dedication; (2) Anger-Betrayal; (3) Stoic Resolve; and (4) Integration. A reconstitution plan that intermixed replacements with veterans facilitated integration and unit recovery; veterans quickly accepted newcomers as allies in adversity. Despite some individual differences, the general response pattern indicates a group-level phenomenon of adaptation to collective trauma that includes both intrusion and denial. This model of group recovery from trauma calls attention to social aspects of the grief process, and suggests interactions between individual and social factors that may influence adjustment to traumatic loss.

KEY WORDS: air disaster; traumatic stress; grief; group recovery; military; reconstitution.

INTRODUCTION

In December 1985, a chartered U.S. Army jetliner crashed in Gander, Newfoundland, killing all on board. This was the second of three flights car-

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rying soldiers home for Christmas after 6 months of peacekeeping duty in the Sinai. [Since 1981, the United States has provided personnel and equipment as part of a multinational peacekeeping force in the Sinai Desert between Israel and Egypt. The U.S. Army units serve a 6-month tour of duty (cf. Segal *et al.,* 1984).] Of the 248 soldiers killed, 189 (76%) were members of a single battalion of the 101st Airborne Division. One entire company (110) men) of this battalion was lost.

While considerable research attention has been given to individual grief reactions following loss through death (e.g., Ball, 1976; Lindemann, 1944; Parkes and Weiss, 1983), much less is known about grief and group responses to collective loss. This is no doubt due at least partly to the low frequency of such events; it is difficult to study what rarely happens, and mass disasters cannot be reproduced in the laboratory. Those studies of group or community responses to disaster that do exist typically focus on either psychological, or on sociological issues. The first type explores the incidence and distribution throughout the exposed group of various psychological disturbances, such as anxiety reactions and depression (e.g., Shore *et al.,* 1986; Titchener and Kapp, 1976), and more recently post-traumatic stress disorder (e.g., McFarlane, 1988). Other disaster studies attend more to strictly sociological questions such as organizational responses, crowd behavior, and looting (e.g., Dynes, 1970; Fritz, 1957). Studies that examine psychological reactions to trauma embedded within a social-cultural context are rare.

Social and cultural anthropologists have explored the interactions between private grief and group mourning practices in a variety of cultures (Eisenbruch, 1984a; Rosenblatt *et al.,* 1976). But these studies usually deal with grief in the context of a single death rather than disasters or mass casualties. A few researchers have examined bereavement in groups of displaced Southeast Asian refugees (Eisenbruch, 1983; 1984b; Kinzie and Boehnlein, 1989). While many of these refugees show increased somatic complaints and ill-health following resettlement, it is not clear whether this is due primarily to the trauma experienced in the homeland (e.g., mass executions by the Pol Pot regime in Cambodia), to the uprooting experience itself, or to the loss of cultural bereavement practices. Grief reactions in groups exposed to large-scale death have thus far not been studied much as social-psychological phenomena. This is regrettable, since social and psychological variables appear to interact closely in determining responses to traumatic stress (Murphy, 1988; Ursano, 1985). Since it affected a cohesive social group within a single culture, the Army's Gander crash presents a rare opportunity to study social-psychological response patterns to the collective trauma of loss through death. The present study chronicles the rebuilding and recovery process in the affected Army unit, and outlines the major features of that process from a social-psychological vantage.

While major air disasters are relatively infrequent events, they are becoming less so. As the volume of passenger flights increases, *ceteris paribus,* the probability of a crash also goes up. In addition, more and more charter and non-charter flights are carrying not just collections of strangers, but integral, cohesive groups of various kinds. For example, the United States military increasingly relies on air transport for the movement of whole units and families around the world. The same is true outside the United States, and for non-military organizations such as community and church groups, sports teams, student exchange program participants, and excursion travel groups.

Several studies have documented negative psychological effects in assistance workers and others following air disasters (e.g., Bartone *et al.,* 1989; Hartsough and Myers, 1985; Keating *et al.,* 1987). When victims belong to a distinctive community of some kind, the impact is likely to be even more severe and far-reaching (Erikson, 1976; Titchener and Kapp, 1976). Such was apparently the case following the December 1988 crash of Pan Am flight 103 in Lockerbie, Scotland. Among the victims were 35 students from a small American university in New York state. Shock and grief reverberated through the university community for weeks afterwards, as indexed by local and student newspaper accounts (e.g., Billmyer, 1989; Schmitt, 1988), and by active community participation in memorial services and counseling/support sessions (Plude, personal communication).

This growing awareness of how air disasters can impact on communities and groups has generated increased concern with prevention and treatment of dysfunctional psychological reactions in communities following a crash (Frederick, 1981; Williams *et al.,* 1988). But prevention and treatment efforts are hampered by a lack of knowledge about the normal processes of group recovery and reintegration after sudden, traumatic loss. The present study takes a necessary step in developing this knowledge by providing a descriptive account of the recovery process in a large and cohesive group following the loss of one third of its members. These observations are framed within a heuristic model that posits a stage-like sequence of group recovery from traumatic loss.

METHOD

Permission to conduct the study was granted by responsible authorities on the condition that researchers not interfere in any way with local organizational/community assistance efforts, or place any additional burdens on unit survivors. This precluded the use of structured interviews, surveys, checklists, or field psychiatric screening tools such as the DIS (Diagnostic Interview Survey; Robins *et al.,* 1981). Given this *quid pro quo* and the ur-

gency and sensitivity of events surrounding the crash, unobtrusive observation and unstructured interviews were chosen as appropriate research tools. This was not considered a disadvantage, since lack of knowledge about human group reactions to such events makes an open, exploratory approach most appropriate. In this regard, Kastenbaum (1987-88) recently noted that an over-dependence on survey methods (e.g., self-report scales) can seriously limit efforts to understand complex human phenomena such as reactions to death. The present research can be described as an in-depth clinical case study of a social group following the sudden, unexpected, and violent loss of nearly 200 of its members.

Data were collected over a 6-month period via unstructured, often opportunistic individual and small-group interviews, and by systematic unobtrusive observation of the unit in both garrison and field environments. The first data collection point was 3-6 days after the crash, followed by five interview/observation periods spaced at approximately monthly intervals. Three trained psychologists conducted the observations and interviews upon which this report is based. One observer also participated in a series of intensive training activities with the unit subsequent to the insertion of replacements, and later accompanied the reconstituted group on an overseas training exercise. During the 6-month period of study, approximately 450 hr of observations were recorded, and 140 persons interviewed.

RESULTS AND DISCUSSION

Several general trends were found to characterize the reactions of the group as a whole. For heuristic purposes, these modal response tendencies are described in terms of four response categories or phases, each of which was dominant during a particular time period following the crash. These categories overlapped somewhat, and certain individuals displayed patterns that deviated from the general trend. The reader is thus cautioned to regard this scheme as a conceptual aid for understanding group responses to a particular disaster; it is not known how relevant it might be to other traumatic events that affect groups. Figure 1 presents a graphic illustration of the model.

In this figure, the passage of time is represented on the horizontal ("x") axis, and characteristics of persons that might influence reactions to traumatic loss are represented on the vertical ("y") axis. The modal response style is represented in the diagonal. In a manner similar to Erikson's (1950) "epigenetic chart" for stages of human development, the unlabelled cells are meant to suggest individuals who either accelerate through phases more quickly than the norm (upper-left cells of diagram), or who are slower or become fixated at earlier response phases (lower-right cells). Thus, a hypothetical

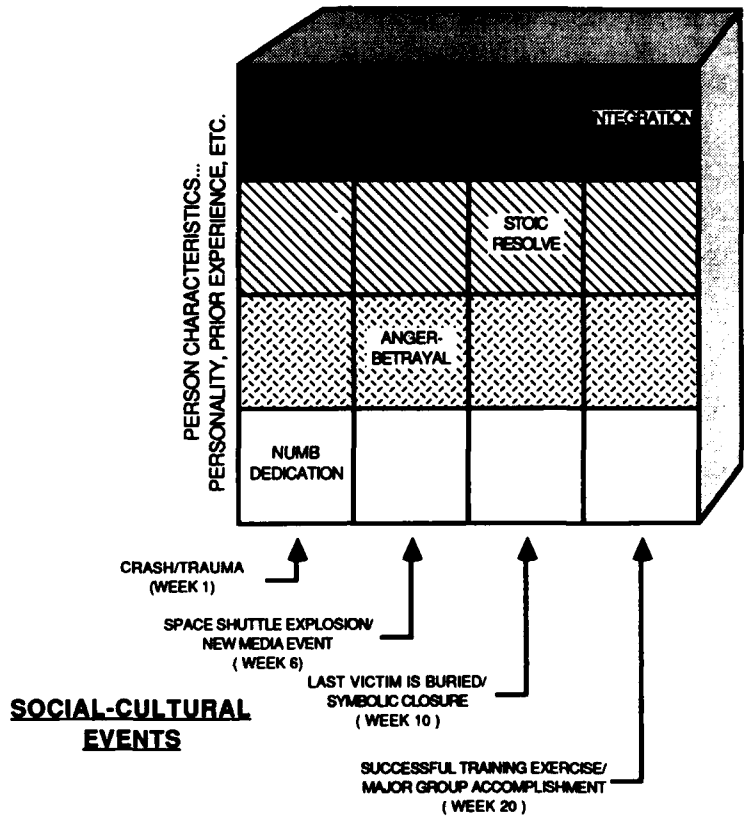

Fig. 1. Psychosocial phases of group response to disaster.

individual in the upper-left-most cell is responding in a manner most characteristic of the "integration-cohesion" phase, even at weeks 1-6, while an individual in the lower-right-most cell is fixated at the "numb dedication" phase, even at week 19.[2] Also, characteristics of earlier and later phases may be apparent at any point in the process. The horizontal time dimension also includes major social/cultural events that helped to demarcate phases of response. In what follows, a detailed description of these phases is provided, with examples of the kinds of behaviors and reactions they include. The

[2]This is more than a hypothetical scheme; we observed some individuals who fit very well into these "deviant" cells. Even at 6 months post-crash, a few appeared fixated in the early "numb dedication" phase, showing persistent denial and detachment. This pattern was often associated with heavy alcohol use. Likewise, some individuals moved prematurely to the "integration" phase, showing no apparent psychological disruption. These were mostly senior noncommissioned officers with previous combat experience.

recovery process is then discussed as a group "stress response syndrome," providing an organizing framework for understanding grief responses in cohesive groups.

Numb Dedication (Weeks 1-6)

In the hours and days immediately following the crash, there was widespread general disbelief and even denial of the event. Several organization officials initially asserted the aircraft "was not one of ours." This position had to be abandoned as the facts emerged, but was followed by a generalized affective detachment or numbness by individuals throughout the group. The work atmosphere was somber but business-like. Soldiers working in the battalion staff offices at this time described "a feeling of unreality, like this isn't really happening," "like I'm on automatic pilot," and feeling as if "I'm here, but I'm not really here." Many described feeling "numb" or "cold," with "no real feelings at all."

This affectively constricted but task-oriented response style was echoed at the group level by leaders who enjoined their men to "behave like soldiers" and "focus on the mission." Leaders further reinforced this pattern by their own example and policy statements. An official, 9-page letter describing command philosophy and goals for the next 6 months was distributed throughout the unit 3 weeks after the crash. The letter made no reference to the crash or any of its repercussions, despite the fact that funerals and ceremonies were still being held on a daily basis.

This *modus operandi* of detached avoidance or "turning away" from the traumatic event seemed to serve two important functions. At the group level, it facilitated the reasonably efficient pursuit of important unit tasks, such as locating and training new personnel, responding to outside requests for information, providing funeral honor-guard details, and developing a new training schedule. Second, at the individual level it insulated many unit members from being overwhelmed and paralyzed by their own sadness and grief at a time when pressing tasks required their attention.

Although this detached response style was dominant, various intrusive reminders including physical objects, locations, and activities sometimes triggered periods of uncontrolled crying and grief. Photographs, personal belongings, abandoned automobiles now parked beside fatherless homes, grieving family members, newspaper stories, and name-tags of the dead prompted flooding memories of large-scale death and loss. Disturbing dreams were common, and most unit members reported difficulty sleeping. Dream content included images of the plane going down, crashing and burning, and the terror-filled faces of those on the plane. The dreamer often found himself on the crashing plane. Four incidents of "ghost phenomena" were directly

observed during this period (cf. Rosenblatt *et al.*, 1976); some surviving members of the unit believed they saw one or more of the dead soldiers walking or driving around the post. One survivor experienced a severe panic reaction (hyperventilation, speech-loss) upon entering a crowded dining hall, where he mistakenly identified a new soldier for one of those killed. A possible contributing factor to these ghost phenomena was the lingering confusion about just who was on the plane that crashed. There was much last-minute swapping of seats before the doomed flight departed Egypt, making it difficult to quickly confirm the flight manifest after the crash. During the first 3-4 weeks postcrash, we witnessed several tearful reunions of friends who had thought each other dead.

Other symptoms commonly reported and observed during this period are characteristic of PTSD (Post-Traumatic Stress Disorder; APA, 1987). These included hyperalertness/jumpiness, being startled and frightened by sudden noises or movements, and loss of appetite. A sense of survivor guilt was widespread. Some soldiers talked openly about feeling confused, fearful, and guilty over having survived when so many were killed. This reaction was most severe and persistent in soldiers who were originally scheduled to return on the flight that crashed, but had exchanged seats with others. For example, the much-loved battalion chaplain had yielded his seat on an earlier flight to a soldier whose wife was ill. The chaplain subsequently died in the crash, literally in the soldier's place.

Despite the symptoms described above, the dominant response of most individuals was avoidance, with occasional sudden intrusion of the traumatic event into awareness. Horowitz (1976) has suggested this "avoidance-intrusion" cycle is a necessary aspect of working-through grief, and a characteristic feature of acute post-traumatic stress disorder. From this perspective, the dominant group response throughout the phase was one of denial or "turning away" from the trauma, punctuated by periodic awareness or recognition. This awareness frequently came in the context of memorial services.

While practical assistance was provided by post agencies outside the unit (e.g., Army Community Services, Casualty Affairs Office, Chaplain's Office), it was the damaged battalion that assumed primary responsibility for ensuring that (1) the dead received appropriate recognition and honors; (2) personal belongings were properly disposed of; and (3) surviving family members received adequate care. The battalion headquarters became a center of activity for these functions as casualty workers, medical personnel, reporters, friends, and relatives sought information about the crash and its victims. The battalion also played an active role in planning and carrying out two elaborate memorial services, and provided numerous funeral honor-guards and personal assistance officers to families (Bartone *et al.*, 1989; Wright, 1987).

Another task initiated during this early phase was that of reconstituting the devastated unit. Several key leaders perished in the crash (e.g., Battalion Commander, Command Sergeant Major, chaplain, and several staff officers), and needed replacements. The challenge to the local personnel management system was urgent and unprecedented in scope. Over 160 new individuals with various occupational specialties had to be located and reassigned. To make matters worse, no policy guidelines existed for reconstituting a complete company within a cohesive battalion.

After considering several alternatives, battalion leaders decided on a plan aimed at maximizing contact between newcomers and surviving veterans. This strategy was preferred over an alternative approach of forming a new company entirely of replacements. This "integrative" rebuilding strategy aimed to: (1) preserve and maintain the cultural integrity of the unit; (2) disperse the inexperienced soldiers across the battalion; and (3) hasten the socialization and education of the new soldiers. A prime concern was that newcomers might be rejected by the veterans, since many of these veterans were still grieving the loss of close friends in the crash. Some studies have reported a tendency for combat veterans to shun replacements, perhaps in an effort to protect themselves from future emotional distress associated with comrades being wounded or killed in battle (e.g., Lipton and Schaffer, 1986). This fear of newcomers has also been attributed to the veterans' concern that inexperienced soldiers place them and the unit at higher risk for injury and death in combat (e.g., Brende and Parson, 1985).

Anger-Betrayal (Weeks 6-10)

Near the 6-week point, the first phase of "numb dedication" shifted to one dominated by a sense of "anger-betrayal." The transition into this next phase was associated with two major events in the life of the unit. First, the Canadian Aviation Safety Board (CASB) released a preliminary report implicating poor airline safety practices as contributing to the crash. Second, the U.S. space shuttle "Challenger" exploded after launch on January 28, 1986. All seven crew members were killed in a dramatic event shown live on national television.

The CASB report seemed to confirm the suspicions of many surviving unit members that negligence and greed had led directly to the Gander crash. Also, the shuttle explosion seemed to unfairly eclipse the Gander crash in terms of national media and public attention. Unit survivors resented what they perceived as greater public concern for seven astronaut lives than for 248 soldier lives. This was attributed to a presumed public attitude that "a soldier's blood is cheap," that soldiers represent the lower strata of society and are therefore more expendable than others. Nightly news reports of ex-

tensive efforts to recover astronauts' bodies, and long investigations to determine the cause of the Challenger explosion also confirmed this outlook for many.

In conversations and interviews, anger was frequently expressed toward the charter airline for alleged safety violations (e.g., exceeding aircraft weight restrictions, failing to apply deicing chemicals to the wings), and toward the upper-echelons of Army command for not assuring the safety of military charter flights. This was coupled with a sharp sense of betrayal; many felt the trust they placed in the Army to care for their safety and welfare had been profoundly violated. In some cases this developed into a generalized belief that all organizational expressions of humanistic concern for its members were disingenuous and self-serving. Deep disillusionment followed, and a sweeping rejection of organizational values and commitment. Two highly experienced and successful officers resigned their commissions during this period.

While there was tremendous anger toward the Army, this was directed at higher organizational levels—the "Big Army." At the unit level there was a very different sense of mutual dependence and support. The phase of anger-betrayal was characterized by an exaggerated sense of unit self-reliance, a "circle-the-wagons" mentality that drew the border at Battalion level. Anyone inside that border was regarded as a friend, while anyone outside it was seen as a potential threat or enemy. Many unit members tried to direct their anger into constructive channels, for example, using it to galvanize efforts to care for the dead and their bereaved families. It also gave impetus to the task of repairing the unit; an intact and functional unit would presumably be less vulnerable to external threats of any kind. Some leaders capitalized on this sentiment, stressing the need to "take care of our own" and "get the unit back on its feet again." The expressed belief was that by integrating the replacements and resuming full training activities as soon as possible, the unit would thereby be healed, strengthened, and preserved.

The grim and difficult task of body identification was performed at Dover Air Force Base in Delaware over the 2½ months following the crash (Ursano and Fullerton, 1987). Throughout this period, as remains were identified and transported to families for burial, the unit continued to provide soldiers for funeral honor-guard ceremonies. These funerals and other memorial services were among many intrusive events that continued to remind survivors of the crash. Although there were fewer open expressions of sadness and crying during this phase, there was no noticeable decline in the number or severity of symptoms like insomnia, frightening dreams, survivor guilt, and jumpiness. Many soldiers reported using tranquilizers and alcohol to relieve tension, and as soporifics. Overall, group response in this phase indicated a confronting of the traumatic event, and attempts to manage associated emotions, especially anger.

Stoic Resolve (Weeks 10-20)

The identification and burial of the last dead soldier 10 weeks after the crash was another turning point for the group. A widespread sense of relief accompanied the news of the last body identification, with comments like "at last we can get on with life" and "put the crash behind us" frequently heard. Expressions of sadness and anger were replaced by an attitude of "stoic resolve" to continue on with work and life. Many individuals reported having made a conscious decision to focus attention on the present and future, with the aim of bringing the battalion back to a strong and healthy state. The crash itself became a taboo topic. All emphasis was on training and readiness. When some reference to the crash became necessary, as was the case at memorial services, indirect or euphemistic terms were used (e.g., "the plane that was lost"; "our Sinai heroes"; "our soldiers who didn't make it home").

Also during this period, a major training exercise was conducted. This gave replacement troops an opportunity to prove themselves as responsible and competent members of the unit. Following this exercise, a new sense of familiarity and trust was apparent between newcomers and veterans. Despite the sense of returning normalcy, symptoms persisted for some. The most commonly reported symptoms during this period were continued sleep disturbances and increased alcohol consumption. Memorial services scheduled during this period were generally shunned by the soldiers. The common sentiment was that sufficient attention had been given to honor the dead, and it was now time to "get on with living."

Although verbal references to the crash had all but ceased, our observations suggested the crash was not truly forgotten. For example, when boarding the plane for the overseas training exercise, four soldiers became violently ill. Also, during take-off and landing, all conversation among the soldiers stopped, and a total silence was maintained for 2-3 min. Several passengers later commented this was highly unusual behavior for soldiers, and attributed it to unspoken fears related to the Gander crash. This training flight apparently provided a powerful intrusive reminder of the crash for the entire group. Still the trauma and any related feelings were not topics for discussion among the soldiers. The major theme in group response during this period was one of "turning-away" or avoidance.

Integration (Weeks 20-30)

The successful completion of the overseas training exercise (about week 20) coincided with an important Division historical celebration. These two events marked a transition into the fourth and final recovery phase for the

unit, that of "integration." It was a period of integration in two important senses. First, the unit had accomplished the social integration of replacements necessary to the restoration of unit cohesion. Second, by now an effective psychological integration or "working-through" of the loss was apparently realized by most unit veterans, and by the unit as a whole.

Integration in the first sense is perhaps more germane from a military organizational perspective. Replacements had by this time incorporated much of the unit culture, having learned the lore, skills, and traditions from the veterans. They now worked comfortably alongside one another. New soldiers, given the opportunity to prove their mettle to unit veterans, had done so. Newcomers now reported a strong sense of solidarity and brotherhood with the unit. Veteran small-unit leaders (squad, platoon sergeants) reported they no longer thought of the new soldiers as replacements, but as full contributing members of the group. Replacements had "integrated" or accommodated themselves to the unit, and the unit had "integrated," or assimilated them as well.

This was also a period of psychological integration for individual veteran unit members. Most now found themselves looking toward the future with a renewed sense of hope, having largely worked-through the trauma. The loss was not denied, but rather accepted and integrated into their life experience. Some described personal growth and learning as a consequence of the crash, along with an enhanced sense of meaning in their lives.[3] On the other hand, such positive outcomes were not universal among veterans. Some reported feeling both physically and emotionally exhausted. One of several veterans who requested a transfer to a different unit asserted he had done his duty to "help get the unit back on its feet," and could now leave with a clear conscience. Several others stated they would not reenlist once their current term was over.

In a larger cultural-organizational sense, this was also a phase of integration in that the crash was absorbed into the history of the unit/organization. This was evidenced by the symbolic preservation of the event and its victims in memorial displays and plaques emplaced around the post. These were usually somber yet colorful with flags and unit emblems, and always emphasized heroic qualities. Curiously, once these elaborate and attractive displays were constructed, they were typically ignored by unit members. Only the occasional outside visitor paid them much attention. Still, while most soldiers appeared to take little notice, the simple existence of these permanent memorials was clearly important to them. Symbolic displays like these may

[3]An enhanced sense of purpose or meaning for some individuals following severe stressful experiences has also been observed in survivors of Nazi concentration camps (Antonovsky, 1979), Vietnam POWs (Ursano et al., 1981), and Army "survivor assistance officers" (Bartone et al., 1989).

serve the paradoxical function of permitting survivors to turn their conscious attention away from the disturbing event, without contributing to a sense of guilt. Survivors consistently walked past such displays without observing them directly, and yet they also reported strong beliefs that it was right and honorable to preserve the memory of the Gander victims through such memorials.

Several authors, most notably Lazarus (1966), argue that denial sometimes provides an effective defense for coping with overwhelming stress. Our observations here suggest that at certain times following the crash, especially in the immediate aftermath, some level of denial was adaptive. It did appear that healthy long-term adjustment or integration required directly addressing the loss and associated thoughts and feelings at some point(s). The majority of unit members accomplished this during the "anger-betrayal" period, as well as through intrusive episodes during the earlier "numb dedication" phase. In contrast, during the "stoic-resolve" phase a group turning-away from the event, "leaving it behind," "not dwelling on it," was the modal response. This apparently healthy form of "denial" corresponded in time with the burial of the last crash victim. The final burial itself became a potent unit symbol for establishing psychological distance from the crash—it has been "laid to rest."

Individuals who maintained a more complete and persistent avoidance style fared less well. One such survivor was, by his own account, drinking heavily and having great difficulty sleeping at the 6-month point. He had never previously discussed his thoughts and feelings about the crash with anyone, and actively avoided memorial services held beyond the 3-month point. He also avoided all television news reports for fear of hearing about another air crash. This individual is representative of a subgroup of trauma survivors that, for whatever reasons, are unable to take therapeutic advantage of organizationally sponsored opportunities to work-through the loss. For these "total-deniers," group memorial services, symbolic displays, and other events and objects appear to have an overall negative effect, presenting disturbing reminders of a traumatic event not yet confronted or worked-through. Recent evidence suggests that within a therapeutic and supportive environment, sensory reminders of the trauma (e.g., "flooding") can stimulate a healthy working-through process (Keane *et al.*, 1989). The subgroup of total deniers identified here may represent good candidates for such therapy, although it must be approached cautiously. Little is known about the optimal form and timing for such therapeutic interventions.

Individual psychological processes had parallels at the group level. For example, at about the 5-month point the parent-unit (Division) held an annual celebration of unit history and accomplishments. Although the crash was now memorialized in the Division museum and in displays around post,

no reference was made to it in any of the formal ceremonies held throughout the week. This suggests an institutional "turning-away" or denial similar to that commonly displayed by individuals throughout this period. For both the unit and its individual members then, this was a time for looking to the future, and for leaving disturbing aspects of the past behind.

SUMMARY AND CONCLUSIONS

This report provides a social case-study of a military unit affected by a fatal plane crash in December 1985. Observation and interview data collected over the 6-month period following the crash suggest that group recovery from collective trauma can be summarized in terms of four phases: (1) Numb dedication, (2) Anger-betrayal, (3) Stoic resolve, and (4) Integration. This phased sequence of responses characterized the affected battalion as a social unit, as well as individuals within the unit. While progression through recovery phases may be partly a function of the passage of time, each transition was linked to major social-cultural events. For example, the emergence of the anger betrayal-phase coincided in time with the release of a report by Canadian aviation authorities on the probable causes of the crash. This calls attention to the possible interaction of psychological, social, and historical events and processes in determining the course of recovery from trauma.

The concern of unit leaders that replacements for the dead would be rejected by the veteran-survivors turned out to be unfounded. Somewhat surprisingly, the trauma itself established a social context conducive to the integration of replacements, since they were quickly perceived as allies in the rebuilding process. An innovative reconstitution strategy had desirable consequences. This plan involved the structural integration of small groups of veterans with small groups of replacements, as opposed to forming a new subgroup entirely of replacements. This encouraged old and new soldiers to share experiences and information, hastening the recovery of unit social integrity and cohesion. The availability of key leaders who skillfully counterbalanced psychological sensitivity with a task-oriented concern for training also contributed to rapid unit recovery.

The extent to which this model might apply to other disasters or traumatic loss situations is not known. The Gander crash was unusual in several respects. It was a technological or human-induced disaster, impacting on a tightly-knit, cohesive social unit. There is some evidence that responses vary with the type of disaster, and with characteristics of the affected community (e.g., Beigel and Berren, 1985; Federick, 1980). Perhaps less cohesive groups, and/or groups affected by other kinds of disasters, would display different response patterns. Similarly, we cannot be certain to what extent these find-

ings are culture-specific, or how non-Western cultural groups might respond to similar kinds of trauma (Eisenbruch, 1984b).

Still, the present findings are consonant with many other reports of human responses to disastrous loss. Psychic numbing and flattened affect in the early postdisaster period were observed in survivors of the Coconut Grove nightclub fire (Lindemann, 1944), Hiroshima bomb survivors (Lifton, 1967), and flood victims (Titchener and Kapp, 1976; Erikson, 1976). The "anger-betrayal" and "integration" phases described here also are similar to Frederick's (1980) "disillusionment" and "reorganization" periods. But the powerful sense of devotion and diligence seen here during the early "numb dedication" phase may be unique to highly organized social groups.

Other disaster researchers have noted a relation between major social/environmental events, and the behavioral and psychological responses of victims in the post-disaster period. For example, Wallace (1956, 1957) describes a three-stage disaster syndrome following a tornado in which the period of *isolation* from outside aid is associated with victim responses of "dazed, stunned apathy." As aid arrives and *rescue* activities begin, psychological responses of victims shift to mostly passive dependency. Finally, during the rebuilding and *rehabilitation* phase, victims display more active, altruistic, and even euphoric responses. Thus, for tornado victims also it is not merely the passage of time that defines transitions into new response phases, but also the occurrence of critical events in the social environment. Additional research is needed to specify how individual and social factors interact with each other and with time to influence responses to traumatic loss.

The pattern of group recovery from traumatic loss observed here shares important features with Horowitz' (1976) description of individual responses to loss and traumatic events. Horowitz identifies both avoidance and intrusion as key elements in the normal process of "working-through" traumatic loss, with a characteristic alternation or cycling between the two. In the present study, each of the four recovery phases was marked by varying degrees of both avoidance and intrusion. Phase 1 (numb dedication) was dominated by a detached, almost unconscious avoidance, punctuated by a high frequency of intrusive reminders at both the individual and group level. Phase 2 (anger-betrayal) was the period of greatest intrusion or active awareness of the event, with associated grief and anger. Phase 3 (stoic resolve) reflected primarily turning-away or avoidance, with occasional intrusive reminders. Phase 4 (integration) was a time when the emotional wound was largely healed, and the loss was not so much avoided as it was incorporated into the life and memory of the group. Similar to what Horowitz has described in reference to individuals, this response pattern can be considered a "stress response syndrome" experienced by cohesive social groups following traumatic loss.

Like any theoretical model of human behavior, this one also carries some danger. It suggests what are certainly overly simple explanations for highly complex, multi-determined phenomena. Nevertheless, such models are useful as aids to understanding. In the tradition of "grounded theory" (Glaser and Strauss, 1967), the present model is closely tied to detailed observational data. It provides an organizing framework for those data, and suggests how psychological, social, and organizational processes might interact to affect group recovery from disaster. As such, the model should be of some heuristic value to those working to map the course of individual and group reactions to traumatic loss in a variety of circumstances.

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